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Analysis of the Winter Texan Impact on the Naval Hospital Corpus Christi Health Care System

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14. ABSTRACT
The Naval Hospital Corpus Christi Health Care System (NHCCHCS) provides care for an enrolled beneficiary population of approximately 23,000. Additionally, NHCCHS provides care for locally-residing beneficiaries who request care on a space available basis. Naval Hospital Corpus Christi Health Care System also experiences seasonal changes in the demand for health care services because of inflows and outflows of beneficiaries throughout the year. The group known as Winter Texans is one of many groups of individuals that alter demand for services on a seasonal basis, yet the exact number of these individuals remains unknown. This project provides an estimate of the number of Winter Texans and determines their impact on resource utilization. The issues identified in this project suggest that the impact on the NHCCHCS is substantial, to the degree that it could potentially completely overwhelm the resources of the NHCCHCS or any other facility that serves seasonal beneficiaries. Under the revised financing scheme of the TRICARE Next Generation Contracts, capitated funding to medical treatment facilities (MTFs) may worsen this impact. Creating a dual enrollment category for TRICARE beneficiaries could mitigate this impact and preserve MTF solvency.

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Abstract

The Naval Hospital Corpus Christi Health Care System (NHCCHCS) provides care for an enrolled beneficiary population of approximately 23,000. Additionally, NHCCHS provides care for locally-residing beneficiaries who request care on a space available basis. Naval Hospital Corpus Christi Health Care System also experiences seasonal changes in the demand for health care services because of inflows and outflows of beneficiaries throughout the year. The group known as *Winter Texans* is one of many groups of individuals that alter demand for services on a seasonal basis, yet the exact number of these individuals remains unknown.

This project provides an estimate of the number of Winter Texans and determines their impact on resource utilization. The issues identified in this project suggest that the impact on the NHCCHCS is substantial, to the degree that it could potentially completely overwhelm the resources of the NHCCHCS or any other facility that serves seasonal beneficiaries. Under the revised financing scheme of the TRICARE Next Generation Contracts, capitated funding to medical treatment facilities (MTFs) may worsen this impact. Creating a dual enrollment category for TRICARE beneficiaries could mitigate this impact and preserve MTF solvency.

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Introduction

Overview of the Naval Hospital Corpus Christi Health Care System

Commonly referred to as Corpus Christi Naval Hospital, the Naval Hospital Corpus Christi Health Care System (NHCCHCS) is located at Naval Air Station, Corpus Christi, Texas. Along with its three branch medical clinics (BMC), it is the sole U.S. Navy medical treatment facility (MTF) within TRICARE Region 6, which includes Texas, Oklahoma, Louisiana, and Arkansas. In 1998, NHCCHCS was created from the former Naval Hospital Corpus Christi to more appropriately reflect the command's mission, organizational structure, and strategic plan, which focus heavily on wellness, health promotion, and disease prevention.

During this transition, the then limited in-patient services remaining at the core facility were discontinued and the building was converted to business occupancy standards. Physical spaces such as patient rooms, the galley (food service and kitchen), and the surgical suite were remodeled and retrofitted for use as offices, classrooms, and outpatient clinical spaces. Motion detectors were installed on lights to reduce utility costs in areas, such as patient wards, that previously had required 24 hour-per-day illumination. Food, laundry, and most sterile processing services were discontinued as well. Many of the fixtures such as kitchen and sterile

processing equipment were removed and transferred to the Indian Health Service or disposed of.

The decision to undertake this significant transformation stemmed in part from the dwindling in-patient daily census and the national movement in managed care toward health promotion and ambulatory health care delivery (U.S. Department of Health and Human Services, 1991). Through the elimination of the requisite overhead necessary to maintain the facility as an in-patient hospital, significant financial savings were realized in areas such as wages and salaries, food service, laundry, and utilities. Extensive external resource sharing agreements (RSA) were implemented with the local hospital system for all in-patient services as required. Many of the physicians assigned to the NHCCHCS have staff privileges allowing both the admission of patients and the performance of procedures at these hospitals.

With approximately 375 staff members (including active-duty, civilians, and contractors), the NHCCHCS is composed of the core facility at Naval Air Station Corpus Christi and three branch medical clinics located at Naval Station Ingleside, Naval Air Station Kingsville, and Joint Reserve Base Fort Worth.

NHCCHCS is the home to a world-class wellness center that promotes healthy lifestyles and the prevention of common diseases through aggressive marketing and patient education

initiatives. In fiscal year (FY) 2002, the NHCCHCS provided approximately 143,000 outpatient visits (excluding pharmacy) throughout all the clinics. No in-patient admissions are reported for NHCCHCS as this workload is credited to network facilities through resource sharing agreements.

Conditions Which Prompted the Study

NHCCHCS, like all MTFs, provides care not only for enrolled beneficiaries, but also for all eligible beneficiaries who request it on a space available basis. As a result, all MTFs experience in varying degrees, resource utilization requirements for *ghost populations*. NHCCHCS has four known subgroups within its ghost population. They are (a) the portion of student pilots who are not enrolled because their training in Texas lasts less than 180 days, (b) active duty sailors from 21 ships home-ported at Naval Station Ingleside, (c) *Winter Texans* or snowbirds (many of whom are enrolled in other regions or other catchment areas within Region 6), and (d) other eligible but unenrolled beneficiaries which are primarily family members of active duty or retirees with other health insurance.

This project focuses on individuals known as the Winter Texans, a group that is considered to be the least predictable subgroup of the ghost population because it is the most difficult to accurately identify and quantify. Unless they actually seek health care services, they remain an unknown

potential consumer of resources, and as such, they pose a significant potential liability. When they do seek health care services, they become actual consumers of resources, their potential liability becomes reality, and their care can be quantified.

The migration of *Winter Texans* to South Texas occurs because of a moderate Texas climate that entices many people from other less temperate climates to migrate for extended vacations during the winter months. The people who take these winter vacations are generally retired, semi-retired, or self-employed, allowing them to be away from home for extended periods of time. To truly be classified as a Winter Texan (per Winter Texan unofficial rules), a person must be in South Texas by the first of November and remain through the end of March (A. Pinkham, personal communication, 2 April, 2003). A proportion of this group is made up of military retirees and family members of military retirees.

Many, but not all, Winter Texans spend at least part of their extended vacation in the lower Rio Grande Valley. Geographically, the lower Rio Grande Valley is defined as the four southern most counties in Texas, but the entire Rio Grande Valley extends from Laredo east to Kingsville and all the way south to Mexico. Branch Medical Clinic (BMC) Kingsville is the closest component of the NHCCHCS to the Rio Grande Valley,

making it by default the DoD *pharmacy of choice* for residents of and visitors to the Rio Grande Valley.[1]

Another very popular location for Winter Texans is the Aransas Pass, Port Aransas and Rockport area. BMC Ingleside is the closest DoD pharmacy for this population (see Appendix A). Given that the NHCCHCS southern catchment area (Joint Reserve Base [JRB] Fort Worth comprises the northern area) is highly popular among the Winter Texans, an assumption that some unknown proportion of the Winter Texans is retired military, and regardless of branch of service, has previously and will continue to utilize NHCCHCS for health care services during their extended winter stay can be made.

Statement of the Problem

The fundamental issue can be stated as: What is the impact of the Winter Texans on the Naval Hospital Corpus Christi Health Care System? In order to satisfy the impact on the NHCCHCS, this project specifically addresses (a) the population that comprises the ghost population sub-sect known as the Winter Texans, (b) the size of this population, (c) the effect on the

[1] NHCCHCS is the only Department of Defense (DoD) MTF in South Texas. Army and Air Force MTFs in San Antonio, some 140 miles to the north are the next closest. A map of Texas is provided for reference in Appendix A.

capabilities of the NHCCHCS to meet the population's health care service demand, and (d) the strategic planning necessary to meet the future needs of this population.

Literature Review

Through all of history, militaries around the world have been challenged with the matter of health and disease among the troops. In *The Art of War*, Niccolo Machiavelli said, "…for bad indeed is the condition of a general when he has a sickness among his men and an enemy to contend with at the same time," (Shelton, 2001, p 739). From Colonial times to the present, the provision of health care for American troops has been an important issue (Shelton).

Following World War II, veterans were entitled to all health care from the Veterans Administration (VA). A seldom-enforced rule existed requiring the veterans to prove that the requested care was beyond their financial means. During this time, however, any health care provided by the government to other citizens (non-veterans) without an ability to pay was harshly criticized by some for removing responsibility and self-reliance. The United State's health system, therefore, effectively left only those with sufficient means or members of organized groups with adequate health coverage (Starr, 1982).

In the years that followed, many military retirees left the service under the belief that they would continue to receive health care benefits for life, only to realize that their access was severely restricted or absent (Shelton, 2001). With the introduction of Medicare, retirees' health coverage from the DoD or VA all but vanished at age 65, compelling them to utilize Medicare and purchase private supplemental insurance. Most of these supplemental plans did not include pharmacy benefits, leaving these people to fend for themselves when paying for prescription drugs (Franklin, 2001). Although in principle they still had access to free medical care at military facilities on a space-available basis, a wave of base closings and downsizings in the 1980s and 1990s meant that nearby care was often unavailable (Franklin).

Today in America, an estimated 38.4 million people do not have health care insurance (American College of Healthcare Executives, 2002). Providing health care to this uninsured population is becoming increasingly difficult because of the increasing costs of both health insurance and health care delivery, which leaves many Americans with health insurance unable to afford all of the care they require (Herzlinger, 1997). This holds true for some military retirees who depend on their military benefits to provide all of their health care needs. Herzlinger (1997, p xix) posed the question:

> Are we doomed to have an unsystematic health care system that keeps us waiting, provides all too little information and support, cuts off the one good leg, removes the one healthy kidney, and pays outrageous fees to those who deny us the services we have paid for and need?

The United States military, with a mission to provide the highest quality of health care to its active duty personnel, their family members, and to retirees, operates one of the largest health care organizations in the world. This Military Health System, known as TRICARE, provides direct care through its system of MTFs and indirect care through network providers. TRICARE, the military's HMO (Shelton, 2001), has an annual budget of over $16 billion and provides care to approximately 8 million beneficiaries.

The United States has structured its health care financing system around a medical model linked to health insurance. With the development and implementation of TRICARE, this financing system has emerged within the Military Health System (MHS) as well. Thus, having good measures for the ability to get needed medical care, and for any trends and differences across subgroups of the population is important in holding the health care delivery and financing system accountable (Gold, 1998).

A few years ago, the Joint Chiefs of Staff created a program entitled "Road to Health" that addressed the

difficulties and frustrations that TRICARE beneficiaries were experiencing in the bureaucratic, disjointed TRICARE system. TRICARE, with its multiple regions and contracts had become complex, confusing and unfriendly to consumers (Shelton, 2001). Incorporating best business practices that addressed access, case management, claims, and portability, the Road to Health initiative was developed. Additionally, benefits to retirees over age 65 were expanded through TRICARE for Life in October, 2001 (Franklin, 2001; Shelton, 2001). The Joint Chiefs of Staff believed that the DoD was obligated to not only provide the best health care to the world's best military, but also was compelled to uphold a promise to retirees of providing health care for life (Shelton, 2001).

Beginning in 2003, the DoD began to budget for medical care for Medicare eligible beneficiaries on an accrual basis. Using this method, costs are to be recognized during the years in which the service member is working, not in the years when the medical expenses are actually paid. These funds will then sit in a trust fund until used, and when coupled with accrued interest, these funds will serve to cover the expected health care costs of the future (Beland, 2002). An extension of this concept to cover health benefits for non-Medicare eligible military retirees has also been proposed (Beland). The DoD health care funding will also be affected by the implementation

of the Next Generation of TRICARE contracts that begin in 2004. Under these contracts, MTFs will be funded using a capitated rate per enrollee. When enrollees travel or are seen at other MTFs, the services received will be billed to the MTF at which they are enrolled.

South Texas, with its temperate winter climate, has been and continues to be, an extended winter vacation destination for many retirees, many of which may be retired military. The Tourism Research Center, a part of the College of Business Administration at the University of Texas – Pan American (UT-PA) in Edinburg, TX, conducts a biannual study on the economic impact that Winter Texans have on the Rio Grande Valley. Because the Rio Grande Valley is not the sole destination of Winter Texans, the information contained in this report is only a partial representation of the total impact Winter Texans may have on the Naval Hospital Corpus Christi Health Care System. This report, however, is the only such academic research available on the subject. As such, its findings may have important implications for the rest of the NHCCHCS catchment areas.

Migration patterns and characteristics of the groups that travel through the catchment area are critical in health services planning. A recent survey by Vincent, Rivas-Chavez, and Hodges (2001) suggests that at the peak (defined as

February) of the 2000-2001 tourist season, some 143,000 Winter Texans were present in the Rio Grande Valley, up 7.6% from the previous survey in 1998-1999. Table 1 displays the report's

Table 1. *Population Growth of Winter Texans in the Rio Grande Valley for Years 1986 through 2001*

Year	Count
1986-1987	71,000
1987-1988	76,000
1988-1989	79,000
1989-1990	81,000
1990-1991	79,000
1991-1992	84,000
1992-1993	87,000
1993-1994	(No Study*)
1994-1995	97,000
1995-1996	(No Study)
1996-1997	120,000
1997-1998	(No Study)
1998-1999	124,000
1999-2000	(No Study)
2000-2001	143,000

Note: * indicates season in which study became biannual due to consistent trends. Source: Rio Grande Valley Winter Visitor

Study, Tourism Research Center, College of Business Administration, University of Texas-Pan American, Edinbury, TX.

findings of estimated Winter Texan growth in the Rio Grande Valley from 1986 to 2001. The estimate of 143,000 Winter Texans is at the peak of the season; therefore it is not all inclusive of the total number of Winter Texans who may have actually been present in the Rio Grande Valley during the remaining months of the winter season. Additionally, the report estimates that 19% of Winter Texans are *year-rounders*, or people who live in their recreational vehicles (RV's) all year (Vincent et al., 2001). This report does not define respondents as civilian or military retirees. A key assumption of this study is that some unknown percentage of these Rio Grande Valley Winter Texans is, in fact, retired military.

Other research strengthens the findings of the UT-PA publication. Fleischer and Pizam (2002, p. 106) wrote, "The proportion of senior citizens in the United States and in most other developing countries is increasing and their relative wealth is growing faster than that of most other age groups." Some of the factors identified that make this population more prone to extended travel include education, the presence of mobility problems (that make harsh winter climates difficult), self-assessed health status, income level, chronic health conditions, and interest in recreation (Fleischer & Pizam).

A study by Hong, Kim and Lee (as cited in Fleisher & Pizam, 2002) examined the likelihood of taking an extended trip and the

degree of expenditures among U.S. senior tourists. They found that "only age, health care expenditures, and household income were significant in predicting tourism expenditure" (Fleisher et al, 2002, p. 112). Hong, Kim and Lee (as cited in Fleisher et al, 2002, p. 112) said:

> As hypothesized, age had a curvilinear relationship to travel expenditures. Elderly people tend to spend more on trips at their early stage of aging (between 55 and 65 years), but their expenditures tend to decline at their late stage of aging…Unexpectedly, health expenditure was positively associated with travel expenditures. Consistent with the Probit results, after-tax income was a significant factor associated with the actual amount of money spent on travel.

For individuals between the ages of 55 and retirement age (usually 65) who are in good health with normal increasing income, time and/or income limitations are effective deterrents to excessive travel. At retirement, income is typically at its peak, but given that free time increases to a considerably higher degree, income may become a more predictive limitation than time. Subsequently the income constraint stays effective until health status begins to deteriorate and precludes the individual from participating in extended vacations (Fleisher et al, 2002). This pattern was confirmed by Allison Pinkham,

Assistant Manager of Colonia Del Rey RV Park in Corpus Christi, "The only reason Winter Texans don't come back is due to failing health or death" (A. Pinkham, personal communication, 2 April, 2003).

The reported findings in both the UT-PA and the Fleisher et al studies led to research of the *Graying of America* phenomenon. Over the next 25 years, some demographers predict that America will see people age 50 and over increase by 46 million (Riger, 2003). Another source predicts that within 15 years, the number of individuals in the United States between the ages of 55 and 70 will increase by 20 million - a 69% increase over the number of individuals within that population today (deMatas, 2003). Yet another source stated that Baby Boomers are turning age 50 at a rate of one every seven seconds (Sloan, 1998). All of these predictions are consistent with reports from the U.S. Census Bureau, which reveal a significant growth in this age category over time.

Although health status may affect travel, the seasonal nature of travel may have a tremendous impact upon health care delivery. In an interview published in *Healthcare Financial Management* (May 2001, online, p. 2), Morgan Hay, then the Chief Financial Officer for Valley Baptist Medical Center in Harlingen, Texas, stated that:

> A big challenge for nursing and clinical staff is staffing. Because of the Winter Texans, our census in the winter often is more than double that in the summer. From roughly September to April, our staff is run ragged. The difficulty is staffing for the high census in winter and trying to contain costs in the summer. You cannot lay off nurses in the summer and expect them to be available in the winter when you need them.

The issue of health care for Winter Texans is not a one-edged sword that only cuts into the South Texas health care system; the Winter Texans face challenges of their own when leaving home for extended periods of time. Those individuals with traditional indemnity plans or a Medicare supplement can obtain care anywhere. For those with more restrictive plans, obtaining care may be more difficult and requires planning ahead (Franklin, 1998). Military retirees fall under the first scenario, although they may experience some difficulties when traveling between regions or filing claims.

Purpose

The purpose of this graduate management project is to describe one subgroup (Winter Texans) of a ghost population using both qualitative and quantitative techniques. Multiple variables to consider under the following categories are the demographics of the Winter Texans, identification of the health

care services they utilize, and the potential number of individuals that may attempt to utilize NHCCHCS services. Finally, future projections on the growth of this population and their demand for services will be calculated. The expectation is that the Winter Texans have or impose a notable impact on NHCCHCS resource utilization that has not historically been identified or calculated and that by identifying this population by size, demographics, and service utilization, it will be possible to predict their utilization patterns to improve future planning.

Methods and Procedure

Methodology

Nonprobability sampling methods were used to obtain general information about the Winter Texan population. The phone listings of RV parks near NAS Corpus Christi were reviewed, obtaining addresses and phone numbers, and informal visits at these parks were conducted. These visits were conducted between November 2002 and April 2003.

During these informal visits, open-ended questions were asked about Winter Texan volume, average length of stay, if reservations were required for the following year to ensure a spot and reasons provided by Winter Texans for not returning next year. These visits provided anecdotal information that validated information provided in the UT-PA Rio Grande Valley

Winter Visitor Survey but failed to produce any quantitative data for analysis.

Using data obtained from the UT-PA survey, the U.S. Army and the 2000 U.S. Census, estimates were extrapolated to determine the number of military retirees, and the number of potential Winter Texans who may be retirees in the Rio Grande Valley. Simple forecasting techniques were used to estimate the current number of military retirees based upon historical data. A table of the military retiree growth is included as Appendix B.

A time series analysis was performed on data obtained from the Standard Ambulatory Data Record (SADR) for Naval Hospital Corpus Christi by the U.S. Army Patient Administration Systems and Biostatistics Activity (PASBA) on August 1, 2003. Regression analysis was performed to analyze the data for seasonal effects and variations. Additionally, a first differences comparison was made to determine if any seasonal changes in health care utilization were specifically due to the Winter Texans or not. The data contained all patient encounters of retirees and dependents of retirees at Naval Hospital Corpus Christi for fiscal years 2000 through 2002.

Results

The interview process revealed information consistent with that reported by the UT-PA study. Most Winter Texans are from

the northern midwestern states of Iowa, Minnesota, Wisconsin, Michigan, Illinois, Missouri, Ohio, Kansas and Indiana. The NAS Corpus Christi RV Park averages 95-99% occupancy during the winter months and approximately 45-50% occupancy during the summer. Most of the tenants during the winter are here for 3 to 5 months while the summer guests are most likely weekend and short-term visitors. Additionally, the NAS Corpus Christi RV Park is adding 30 new slots for next year, slots that are at this time already reserved.

Data obtained from the U.S. Army provided the annual growth of all military retirees. Data from the U.S. Census Bureau provided the total U.S. population for 1980 and 1990. These two sources were compared to identify any growth trends in military retirees across the total U.S. population. The data from the Army included the number of retirees from 1980 to 1998. The number of retirees from 1999 through 2003 was extrapolated from this data and is displayed in Table 2 (data from the 2000 Census was compared to the extrapolated results for that year). A table depicting military retiree growth from 1980 through 1998 is provided as Appendix B.

Table 2. *Estimated Total Number of Military Retirees for Years 1999 through 2003*

Year	Retiree Count
1999	1,947,231
2000	1,985,024
2001	2,022,817
2002	2,060,610
2003	2,098,403

Note. The average annual increase during the period from 1980-1998 was 37,793.

Additional data obtained from the U.S. Army PASBA was analyzed for utilization trends over time. A time series analysis was conducted on data representing all health care service encounters (excluding ancillary services: laboratory, radiology and pharmacy) at Naval Hospital Corpus Christi by retirees and dependents of retirees for fiscal years 2000 through 2002. A complete list of the clinics by Medical Expense Performance Reporting System (MEPRS) category is included as Appendix C. This data was broken down between beneficiaries enrolled to NHCCHCS and beneficiaries not enrolled to NHCCHCS.

Two significant trends were identified. The first was that the overall utilization of health care among this population is rising over time. The other is that while there appears to be a

rise in health care resource consumption during the winter months, both the enrolled and non-enrolled population demonstrated the same spikes in utilization. Figure 1 shows these trends. The dashed line represents enrolled encounters and the solid line represents the encounters of the non NHCC enrolled encounters (some of whom are Winter Texans).

A seasonal regression model was developed using the number of encounters by the retiree and dependent of retiree beneficiary categories as the dependent variable. The Minitab statistical software program (version 12) was used for all statistical analyses. The dependent variable for the time series models was the monthly encounter (visit) for enrolled and non NHCC enrolled patients. The independent variable included time and a dummy coded seasonal variable, which was defined as all encounters in the months of January, February and March. Table 3 displays the regression coefficients (B), intercept, R^2, the adjusted R^2, and F values.

In both time series models, the trend and seasonal variables were significant. For the nonenrolled population, NHCC experienced about 107 more visits in the winter — the winter season averaged 105 more encounters for the enrolled population ($p < .01$). Under dependence, a two-sample test of first differences across the enrolled and non enrolled samples, however, yielded no difference. There was no statistically

significant difference in the rate of change between the enrolled and non-enrolled encounters. Although there was a significant seasonal effect, it did not vary across these two populations. Therefore, the increase cannot be specifically attributed to the presence or absence of the Winter Texans and the cause of the seasonal increase in health care utilization must lie elsewhere. One possibility then might lie in the colds and flues experienced during these months.

Table 3. *Time Series Regression: Coefficients, Standard Errors, and Model Statistics*

Non NHCC Enrolled Encounters

Predictor	Coefficient	SE
Constant	405.44**	23.99
Time	4.848**	1.069
Winter	107.14**	25.64

S = 66.39 R^2 = 51.6% $\overline{R}^2$ = 48.6% F = 17.56

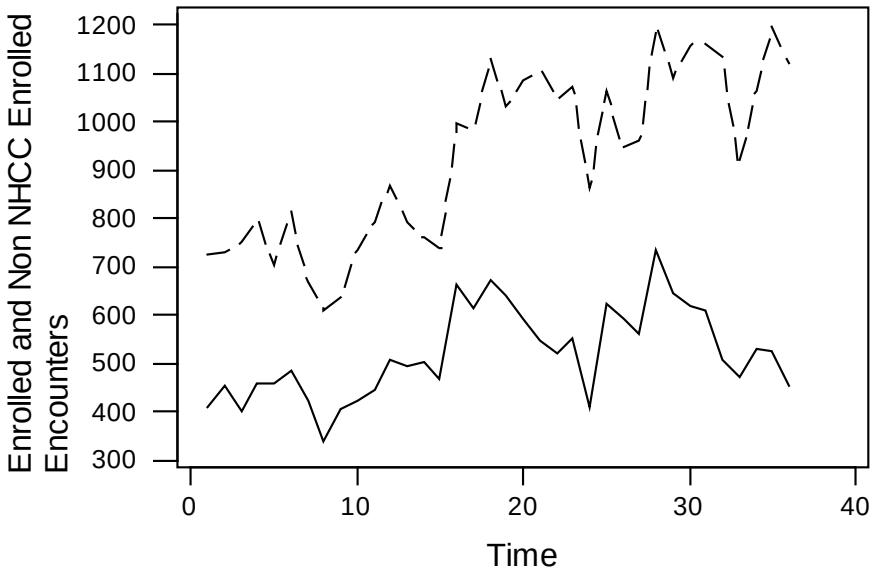
Enrolled Encounters

Predictor	Coefficient	Std Error
Constant	635.32**	33.86
Time	14.404**	1.508
Winter	104.59**	36.18

S = 93.68 R^2 = 74.3% $\overline{R}^2$ = 72.8% F = 47.81

** $P < .01$

Figure 1. *Enrolled and Non NHCC Enrolled Encounters for Fiscal Years 2000-2002 by Month*



Discussion

The total U.S. population in 1990 was 248,709,873 and was 281,421,906 in 2000 (U.S. Census, 2000). The number of military retirees in 1990 was 1,575,168 and was estimated to be 1,985,024 in 2000. Military retirees, therefore, represented 6.3% of the total U.S. population in 1990 and 7.1% of the total U.S. population in 2000 (see Table 4). That represents a growth rate of 0.8% over ten years or 0.08% growth annually. Therefore, in 2003, the estimated number of military retirees is 7.34% of the

entire U.S. population. This number, 7.34%, then becomes the estimated percentage of Winter Texans in the Rio Grande Valley this season who are military retirees based on standard distribution of military retirees across the general population.

Data retrieved from the Composite Health Care System (CHCS) database on December 19, 2003, provided current enrollment and enrollment capacity for NHCC and the BMCs. This information is presented in Table 5 (the enrollment numbers for NHCCHCS, while dynamic, have remained very constant over time). Data collected from the U.S. Census Bureau were compared to the military retiree count for the years 1980, 1990 and 2000 (the number used for military retirees for 2000 is an estimation based on information in Table 1) to identify any trends.

Table 4. *U.S. Census Data compared to U.S. Military Retirees.*

Year	U.S. Population	Military Retiree Count
1980	226,542,199	1,229,162
1990	248,709,873	1,575,168
2000	281,421,906	1,985,024*
2003	Data Unavailable	2,098,403*

Note: * Estimated number of military retirees from Table 2.

Based on the 2000-2001 report from UT-PA that predicted 143,000 Winter Texans in the Rio Grande Valley at the season peak in February (this number is equal to the total number of

outpatient visits seen throughout the entire NHCCHCS in FY 2002, as previously mentioned), the total estimated number of Winter Texan military retirees in the Rio Grande Valley was 10,153, or 7.1% of 143,000. That study cited a 7.6% increase over the previous survey (and noted this to be a historically predictable trend). If that trend held true for the 2002-2003 season, then the estimated number of Winter Texans in the Rio Grande Valley in February, 2003, was 153,868, or 143,000 x 1.076. That would result in the number of Winter Texans in the Rio Grande Valley during the FY 2003 Winter Texan season that are military retirees to be an estimated 11,294, 7.34% of 153,868, an increase of 1141 over two years ago.

If these estimations are correct, then they represent a slightly greater than 50% annual seasonal increase in the number of eligible beneficiaries in the Rio Grande Valley alone over the entire NHCCHCS current enrollment (see Table 5) who might potentially utilize the system and resources. These numbers only reflect estimations and predictions for the Rio Grande Valley and primarily impact BMC Kingsville. They do not account for effects at the other three MTFs within the NHCCHCS. If the same number (11,294) of Winter Texans eligible for care were associated with each of the 4 catchment areas within the NHCCHCS, then the total number of Winter Texans eligible for care in the NHCCHCS would be 45,176. That is 19,176 above the

entire NHCCHCS's maximum capacity of 26,000, or a full 173.8% increase. Therefore, the total number of Winter Texans who are military retirees in the entire northern and southern regions of the NHCCHCS could vastly surpass not only the current enrollment and capacity, but actually overwhelm the available personnel and fiscal resources.

Table 5. *NHCCHCS Enrollment and Capacity as of December 19, 2003*

MTF Name	Current Enrollment	Maximum Capacity
NHCC	10,820	16,000
BMC Ingleside	3,487	4,000
BMC Kingsville	2,199	3,000
BMC Fort Worth	2,361	3,000
NHCCHCS Total	20,332	26,000

The aggregate number of active duty personnel from 1980 through 2002 as reported by the Washington Headquarters Service on www.defenselink.mil and has been included as Appendix D. Due to the significant decrease in total active duty personnel (some 32%), another assumption is made that many of these personnel may have been part of the military drawdown of the late 1980s and early 1990's and are represented in Appendix B as part of the growing military retiree population. Recognizing the rising

number of retirees and the decreasing number of active duty personnel, there will come a time in the future when these numbers begin to reconverge, as less active duty personnel retire and the retiree ranks begin to diminish.

With the global war on terrorism (GWOT), increasing life expectancies, continuously advancing medical technologies and therapeutic modalities, and the *graying of America* phenomenon, however, the date in time when these numbers reconverge is unknown, but expected to be many years in the future. The significance of this trend is that with decreasing active duty end strength comes decreasing medical department manpower and therefore decreased resources. The demand for healthcare resource utilization, however, will continue to increase, placing at some instant in time, an unmanageable strain on the Military Health System and the individual MTFs to be able to continue to provide quality health care to all eligible beneficiaries. Due to the GWOT, NHCCHCS has already experienced this and has been forced to change business rules to provide services for TRICARE Prime beneficiaries enrolled to NHCCHCS only (except for pharmacy services).

This trend of decreasing end strength (which equates to decreased medical personnel), increasing requirements for the GWOT, and increasing demand from eligible beneficiaries (retirees) will result in more and more beneficiaries being

forced out of the MTFs due to continually decreasing MTF capacity in the face of increasing demand for health care services from the aging beneficiary population. This trend will inevitably create greater dependence upon the TRICARE network and result in devastating financial losses to MTFs under the revised financing schemes of the TRICARE Next Generation Contracts (T-NEX).

Recommendation and Conclusion

The issues identified in this project suggest that the ghost populations, and more specifically, the impact on the NHCCHCS and all MTFs by seasonal visitors is substantial, to the degree that it could potentially completely overwhelm the resources of any facility. Exhaustive research into this issue is warranted at the TRICARE Management Activity/Health Affairs level. The UT-PA report describes a predictive model for economic impact based upon the economic methodology of input-output analysis. This model associates business and consumer expenditures and captures the flow of dollars from the purchasers to producers (Vincent et al, 2001). Further research into this methodology may produce a model that can be used by MTFs that experience seasonal tourism to improve their annual strategic planning process and business plans. The UT-PA report may provide a starting point for continued research into this topic.

The issue of seasonality impact, if not addressed, is certain to have devastating effects on the Military Health System in the years to come if appropriate attention and planning are not initiated soon. Furthermore, with the next generation of TRICARE contracts (T-NEX) on the horizon, failure to take adequate action will result in the appearance that some MTFs are capable of managing their enrolled panels within the appropriated funding while others will appear to fail miserably. The reality is that when ghost populations converge upon an MTF's catchment area, demand services, and utilize resources for which that MTF is not funded, organizations will be unable to truly manage costs and control utilization. Organizational abilities to provide quality, safe, effective health care delivery to all of the eligible beneficiaries may also be adversely affected.

One possible solution to this impending crisis is to consider the creation of another TRICARE enrollment option. The beneficiaries would still be able to choose between TRICARE Prime, TRICARE Extra, and TRICARE Standard. The difference would be allowing known, self-professed, seasonal travelers who consistently travel annually to the same alternate destination, to dual enroll in a Prime status, on a pro-rated basis, into the empanelment of two MTFs. This possible solution would require the passage of Congressional legislation.

The revised financing scheme under T-NEX, then, would allow both partially funded MTFs to receive appropriate and equitable funding for that portion of the year in which the beneficiary is expected to be within their catchment area and potentially utilizing their resources. For example, if a retired couple traditionally spends 8 months of each year in South Dakota and 4 months of each year in South Texas, they would be given the opportunity to acknowledge and express this on their enrollment form. The end result would be that the South Dakota MTF receives two thirds of the annual capitated funding and an MTF in South Texas would receive one third. If the beneficiary elects not to travel in a given year, they need simply to change their status back to a sole MTF. In this scenario, the second MTF would transfer the prorated capitation they had received for this beneficiary. This method would simplify administrative processes by reducing the frequency of fund transfers and billing, thus resulting in untold cost avoidance through the reduction in personnel and overhead associated with a billing office (which under the proposed T-NEX revised financing scheme will require NHCCHCS to increase billing office staffing by 4 full-time personnel, a 100% increase over current staffing levels). As mentioned previously, the only reason Winter Texans do not return year after year is due to failing health or death. This being an established trend, the number of enrollment status

changes under a dual enrollment category would be negligible compared to the number of bills required to be processed and paid by both MTFs (NHCCHCS and the MTF to which the beneficiary is enrolled) in the proposed revised financing scheme.

Another option, which seems to be the current status quo, allows for MTFs to bill other MTFs for services rendered. Based on the projected number of Winter Texans who may utilize resources in the NHCCHCS, this solution only adds to the already bureaucratic and complicated TRICARE system and is neither manpower nor financially prudent. The numbers predicted indicate that to handle this issue through billing MTFs would require the seasonal hiring of (un-funded) additional staff. This option is cost prohibitive, inefficient, cumbersome, and redundant.

Yet another option would be to confine MTF access only to those enrollees of the facility. If dual enrollment legislation is not approved, some MTFs might be forced into this scenario simply to contain expenses by effectively restricting all space available services. This resolution would be transitory, however, in the face of lobbying groups and the ensuing political fall-out. An assertive tactic such as this, however, represents the purest structure of capitation financing. NHCCHCS has already temporarily adopted this as a means to continue operations during staff deployments in support of the

GWOT. The political fallout has been significant with multiple Congressional inquiries into the restriction of services.

The intent of the recommended solution (dual enrollment) is not to create further division, dissent or animosity within the MHS, but rather to provide one possible viable answer to address an issue, which, if ignored, will radically begin to harm the MHS as a whole in coming years. Although this suggested solution to addressing the issue of the seasonal impact on MTFs may appear radical to some, it is the opinion of the author that this is one possible, equitable answer that will allow all MTFs, branch of service not considered, to genuinely come together to provide the best possible quality health care to our beneficiaries while creating an atmosphere of teamwork vice creating an environment in which some MTFs appear to be fiscal stewards at the expense of causing other MTFs to appear fiscally wasteful and ineptly managed.

Limitations

There were several limitations identified during this project. A lack of available academic research into this subject created the necessity to estimate and predict many of the numbers reported below. Additionally, a lack of current data, such as the current number of military retirees, required extrapolation of the available data. Much of the data to produce historical trends could not be accessed (the SATR data

was only available for 3 fiscal years). This methodology may, therefore, contain error and not reflect the true magnitude of the subject. Finally, the 2002-2003 UT-PA Winter Survey results are not yet available. If the results are not consistent with the previous trends, then the predictions in this report may be incorrect. Additionally, due to Operation Iraqi Freedom and staff deployments, NHCCHCS had to limit access to enrolled TRICARE Prime patients only in February of 2003. This change in business rules remains in effect and will significantly impact future access of Winter Texans based on space availability.

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Appendix A

Figure: Texas Map.

Note: Naval Station Ingleside is located across Corpus Christi Bay from Corpus Christi (approximately where the "C" in Corpus appears on the map). Aransas Pass, Port Aransas and Rockport are in this region along the coast. Source: http://www.infoplease.com/atlas/state/texas.html retrieved April 10, 2003.

Appendix B

Military Retiree Count, 1980 to 1998

Year	Retiree Count	U.S. Census
2003		
2002		
2001		
2000		281,421,906
1999		
1998	1,909,438	
1997	1,875,725	
1996	1,761,421	
1995	1,735,843	
1994	1,709,777	
1993	1,678,795	
1992	1,647,504	
1991	1,608,509	
1990	1,575,168	248,709,873
1989	1,542,643	
1988	1,507,534	
1987	1,474,282	
1986	1,506,377	
1985	1,412,296	
1984	1,372,697	
1983	1,331,841	
1982	1,298,314	
1981	1,265,150	
1980	1,229,162	226,542,199

Note: Data retrieved from Washington Headquarters Service, (2002). Retrieved March 30, 2003 from http://www.defenselink.mil

Appendix C

Medical Expense and Performance Reporting System (MEPRS) Encounters for Naval Hospital Corpus Christi beneficiaries in the retiree and dependent of retiree categories for FY 2000-2002.

BAA – Internal Medicine Clinic

BAE – Diabetic Clinic

BGA – Family Practice Clinic

BHA – Primary Care Clinic

BHB – Medical Examinations

BHF – Community Health Clinic

BHG – Occupational Health Clinic

BHH – TRICARE Outpatient Clinic

BHI – Immediate Care Clinic

Note: Source data retrieved from the Standard Ambulatory Data Record (SADR) stored in the MHS Management Analysis and Reporting Tool (M2) maintained by TRICARE Management Activity Executive Information/Decision Support Program Office on 1 August 2003.

Appendix D
Total U.S. DoD Active Duty End Strength.

Year	End Strength
1980	2,050,627
1981	2,082,560
1982	2,108,612
1983	2,123,349
1984	2,138,157
1985	2,151,032
1986	2,169,112
1987	2,174,217
1988	2,138,213
1989	2,130,229
1990	2,043,705
1991	1,985,555
1992	1,807,180
1993	1,705,103
1994	1,610,490
1995	1,518,224
1996	1,471,722
1997	1,438,562
1998	1,406,830
1999	1,385,703
2000	1,384,338
2001	1,385,116
2002	1,413,577

Note: Data retrieved from Washington Headquarters Service, (2002). Retrieved March 30, 2003 from http://www.defenselink.mil